

REMARKS

I. STATUS OF THE CLAIMS

Claims 11-19 and 25 are allowed.

Claims 5-10 are "objected to". Therefore, new claims 30-35 are added and correspond, respectively, to "objected to" claims 5-10 written in independent form to thereby be allowable.

Various of the claims are amended herein. Support for the amendments is found, for example, on page 1, lines 11-13; page 4, lines 21-24; page 14, lines 19-21, of the specification.

In view of the above, it is respectfully submitted that claims 1-35 are currently pending.

II. REJECTION OF CLAIMS 1-4, 22-24 AND 26-29 UNDER 35 USC 103 AS BEING UNPATENTABLE OVER KAWAKAMI IN VIEW OF GRUBB

Claim 1 is amended to recite that the first and second wavelengths are selected to reduce gain tilt of the combined Raman amplification "and thereby provide a substantially flat gain over wavelengths of the optical signal". Somewhat similar amendments are made to claims 23 and 26.

Support for the amendments is found, for example, on page 1, lines 11-13; page 4, lines 21-24; page 14, lines 19-21, of the specification.

The Examiner admits that Kawakami does not specifically disclose a first pump light source and a second pump light source supplying different wavelengths. Therefore, it is respectfully submitted that the Examiner would agree that Kawakami does not disclose the first and second wavelengths being selected to reduce gain tilt of the combined Raman amplification and thereby provide a substantially flat gain over wavelengths of the optical signal, as recited, for example, in the amended claim 1.

The Examiner cites Grubb as disclosing different pump light sources supplying different wavelengths.

However, in Grubb, all the pump light sources are located in the same optical device 12. For example, in FIG. 3 of Grubb, all the pump light sources 32 are the same optical device 12. This location of pump light sources in Grubb is significantly different than that recited, for example, in claim 1, where a first pump light source is located in *one of* a transmitting station, a receiving station, and a repeater station, and a second pump light source is located in *a different one of* the transmitting station, the receiving station and the repeater station.

Further, in Grubb, the different pump lights in FIG. 3 are combined by couplers 36 and filter 38, and the combined pump lights are transmitted together through the *same span* of the transmission fiber 30. See, for example, column 7, lines 3-15, of Grubb. This operation in

Grubb is significantly different than that recited, for example, in claim 1, where the pump light at the first wavelength and the pump light at the second wavelength cause Raman amplification of the optical signal to occur in *different spans* of the optical transmission line.

Therefore, even if Grubb was combined with Kawakami, it is respectfully submitted that the combination would not disclose or suggest the location of the pump light sources to provide Raman amplification in different spans of the transmission line as recited, for example, in claim 1.

Although the above arguments are specifically directed to claim 1, it is respectfully submitted that the arguments would be helpful in understanding various differences of various rejected claims over the cited references.

* * *

Claim 22 recites (a) supplying a first pump light at a predetermined value to an optical transmission line, the first pump light exciting an optical signal having a first wavelength band; (b) detecting optical power of the optical signal having the first wavelength band; (c) detecting optical power of an optical signal having a second wavelength band different from the first wavelength band; and (d) adjusting a second pump light so that both detection results fall within a predetermined fixed range, wherein the second pump light excites the optical signal having the second wavelength band.

It is respectfully submitted that neither Kawakami nor Grubb discloses or suggests adjusting a second pump light so that detection results fall within a predetermined fixed range, as recited, for example, in claim 22.

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In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIMS 20 AND 21 UNDER 35 USC 103 AS BEING UNPATENTABLE OVER KAWAKAMI IN VIEW OF GRUBB AND FURTHER IN VIEW OF WU

The present invention as recited, for example, in claim 20, relates to (a) supplying pump light having a first optical power to an optical transmission line; (b) detecting optical power of light Raman-amplified by the pump light having said first optical power; (c) supplying pump light having a second optical power larger than said first optical power, to the optical transmission line; (d) detecting optical power of light Raman-amplified by the pump light having the second optical power; and (e) giving a warning about anomaly occurring at a supplying destination of the pump light when a comparison result between detection results is within a predetermined range.

Wu discloses that pump light is shut off in response to a change in a supervisory signal

transmitted from a supervisory source, to shut off the pump light in the event of a fiber cut. See, for example, FIG. 1, and the disclosure in column 4, line 28, through column 5, line 36, of Wu.

None of the references disclose or suggest that pump light for Raman amplification are supplied at different optical powers, and that a warning is given when a comparison result of detected powers of Raman-amplified light is within a predetermined range.

In view of the above, it is respectfully submitted that the rejection is overcome.

IV. IDS MATTERS

The Office Action mailed December 31, 2003, includes an acknowledged Form PTO-1449 of the IDS filed December 19, 2001. However, the Examiner did not "initial" reference AM on the Form PTO-1449.

Therefore, it is respectfully requested that the Examiner "initial" reference AM on Form PTO-1449 of the IDS filed December 19, 2001.

An IDS was filed on May 5, 2004. Form PTOL-326 of the outstanding Office Action indicates that an acknowledged Form PTO-1449 of the IDS was attached to the Office Action. However, our received copy of the Office Action did not include the Form PTO-1449.

Therefore, it is respectfully requested that the Examiner forward an acknowledged Form PTO-1449 of the IDS filed May 5, 2004.

V. CONCLUSION

In view of the above, it is respectfully submitted that the application is in condition for allowance and a Notice of Allowance is earnestly solicited.

If any further fees are required in connection with the filing of this response, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date:

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By:

Paul I. Kravetz
Paul I. Kravetz
Registration No. 35,230

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501